



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: ☒ Application of: Pramod K. Srivastava
☐ Patent of:

☒ Application No.: 09/411,075
☐ Patent No.:

Group Art Unit: 1636

☒ Filed: October 4, 1999
☐ Issued:

Examiner: To be assigned

For: PURIFICATION OF HEAT/SHOCK
STRESS PROTEIN CELL SURFACE
RECEPTORS AND THEIR USE AS
IMMUNOTHERAPEUTIC AGENTS

Attorney Docket No.: 8449-054-999

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS
[37 CFR 1.9(f) and 1.27(d)] - Nonprofit Organization

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

I hereby declare that I am an official empowered to act on behalf of the nonprofit organization identified below:

Name of organization University of Connecticut Health Center
Address of organization 263 Farmington Avenue
Farmington, Connecticut 06030

Type of organization

- ☒ University or other institution of higher education
☐ Tax exempt under Internal Revenue Service Code (26 USC 501(a) and 501(c)(3))
☐ Nonprofit scientific or educational under statute of state of the United States of America
(Name of state _____)
(Citation of statute _____)
☐ Would qualify as tax exempt under Internal Revenue Service Code (26 USC 501(a) and 501(c)(3)) if located in the United States of America.
☐ Would qualify as nonprofit scientific or educational under statute of state of the United States of America if located in the United States of America
(Name of state _____)
(Citation of statute _____)

I hereby declare that the nonprofit organization identified above qualifies as a nonprofit organization as defined in 37 CFR 1.9(e) for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code with regard to the invention entitled "PURIFICATION OF HEAT/SHOCK STRESS PROTEIN CELL SURFACE RECEPTORS AND THEIR USE AS IMMUNOTHERAPEUTIC AGENTS", by inventor Pramod K. Srivastava, described in

- ☐ the specification filed herewith
☒ application no. 09/411,075 filed: October 4, 1999
☐ patent no. issued

I hereby declare that rights under contract or law have been conveyed to and remain with the nonprofit organization identified above and/or there is an obligation under contract or law by the inventor(s) to convey rights to the nonprofit organization identified above with regard to the invention.

If the rights held by the nonprofit organization are not exclusive, each individual, concern or organization having rights to the invention is listed below* and no rights to the invention are held by any person, other than the inventor, who could not qualify as an independent inventor under 37 CFR 1.9(c) or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

FULL NAME Antigenics, LLC

ADDRESS 630 Fifth Avenue, Suite 2100
New York, NY 10111

☐ INDIVIDUAL ☒ SMALL BUSINESS CONCERN ☐ NONPROFIT ORGANIZATION

FULL NAME _____

ADDRESS _____

☐ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☐ NONPROFIT ORGANIZATION

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. [37 CFR 1.28 (b)]

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, and patent issuing thereon, or any patent to which this verified statement is directed.

Send correspondence to: PENNIE & EDMONDS LLP
1155 Avenue of the Americas
New York, N.Y. 10036-2711

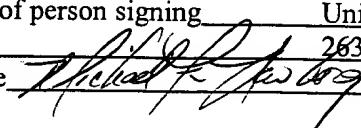
Direct Telephone calls to:
PENNIE & EDMONDS LLP
(212) 790-9090

Name of person signing Michael F. Newborg, Executive Director

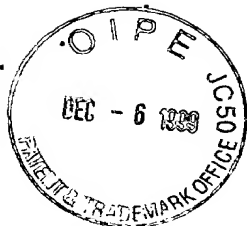
Title of person other than owner UConn Center for Science & Technology Commercialization

Address of person signing University of Connecticut Health Center

263 Farmington Avenue, Farmington, CT 06030

Signature  Date 12/1/99

*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities.
(37 CFR 1.27)



**PURIFICATION OF HEAT SHOCK/STRESS PROTEIN CELL SURFACE
RECEPTORS AND THEIR USE AS IMMUNOTHERAPEUTIC AGENTS**

This application claims priority under 35 U.S.C.
§119(e) to provisional patent application no. 60/103,115,
filed October 5, 1998, which is incorporated by reference
5 herein in its entirety.

The invention was made with government support
under grant numbers CA44786 and CA64394 awarded by the
National Institutes of Health. The government has certain
rights in the invention.

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1. Introduction

The present invention relates to the cell surface
receptors for heat shock proteins (HSPs), such as gp96, Hsp70
and Hsp90, cells that express the Hsp receptor, genes that
15 encode the Hsp receptor, and antibodies and other molecules
that bind the receptor. The invention also relates to the
diagnostic uses of these molecules in immunotherapy. HSP
cell surface receptors recognize and bind to HSPs and are
associated with the cell membranes of a subset of macrophages
20 and dendritic cells. HSP cell surface receptors can have
uses in the diagnosis and treatment of cancer and
proliferative diseases.

2. Background Of The Invention

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2.1. Heat Shock Proteins

Heat shock proteins (HSPs), also referred to as
stress proteins, were first identified as proteins
synthesized by cells in response to heat shock. To date,
five families of HSP have been identified based on molecular
30 weight, Hsp 100, Hsp90, Hsp70, Hsp60, and smHsp. Many
members of these families were found subsequently to be
induced in response to other stressful stimuli including
nutrient deprivation, metabolic disruption, oxygen radicals,
and infection with intracellular pathogens. (See Welch, May

DECLARATION AND POWER OF ATTORNEY

SEND CORRESPONDENCE TO

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below at 201 et seq. underneath my name.

I believe I am the original, first and sole inventor if only one name is listed at 201 below, or an original, first and joint inventor if plural names are listed at 201 et seq. below, of the subject matter which is claimed and for which a patent is sought on the invention entitled

PURIFICATION OF HEAT SHOCK/STRESS PROTEIN CELL SURFACE RECEPTORS AND THEIR USE AS IMMUNOTHERAPEUTIC AGENTS

and for which a patent application:

☒ is attached hereto and includes amendment(s) filed on (if applicable)

☐ was filed in the United States on as Application No. (for declaration not accompanying application)

with amendment(s) filed on (if applicable)

☐ was filed as PCT international Application No. on and was amended under PCT Article 19 on (if applicable)

I hereby state that I have reviewed and understand the contents of the above identified application, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119(a)-(d) of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

| EARLIEST FOREIGN APPLICATION(S), IF ANY, FILED PRIOR TO THE FILING DATE OF THE APPLICATION | | | |
|--|---------|--------------------------------------|--|
| APPLICATION NUMBER | COUNTRY | DATE OF FILING (day, month, year) | PRIORITY CLAIMED |
| | | | YES <input type="checkbox"/> NO <input type="checkbox"/> |
| | | | YES <input type="checkbox"/> NO <input type="checkbox"/> |

I hereby claim the benefit under Title 35, United States Code, §119(e) of any United States provisional application(s) listed below.

| APPLICATION NUMBER | FILING DATE |
|--------------------|-----------------|
| 60/103,115 | October 5, 1998 |
| | |

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code §112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, §1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

| APPLICATION SERIAL NO. | FILING DATE | STATUS | | |
|------------------------|-------------|----------|---------|-----------|
| | | PATENTED | PENDING | ABANDONED |
| | | | | |
| | | | | |

POWER OF ATTORNEY: As a named inventor, I hereby appoint S. Leslie Misrock (Reg. No. 18872), Harry C. Jones, III (Reg. No. 20280), Berj A. Terzian (Reg. No. 20060), Gerald J. Flintoft (Reg. No. 20823), David Weild, III (Reg. No. 21094), Jonathan A. Marshall (Reg. No. 24614), Barry D. Rein (Reg. No. 22411), Stanton T. Lawrence, III (Reg. No. 25736), Charles E. McKenney (Reg. No. 22795), Philip T. Shannon (Reg. No. 24278), Francis E. Morris (Reg. No. 24615), Charles E. Miller (Reg. No. 24576), Gidon D. Stern (Reg. No. 27469), John J. Lauter, Jr. (Reg. No. 27814), Brian M. Poissant (Reg. No. 28462), Brian D. Cogio (Reg. No. 27624), Rory J. Radding (Reg. No. 28749), Stephen J. Harbulak (Reg. No. 29166), Donald J. Goodell (Reg. No. 19766), James N. Palik (Reg. No. 25510), Thomas E. Friebe (Reg. No. 29258), Laura A. Coruzzi (Reg. No. 30742), Jennifer Gordon (Reg. No. 30753), Jon R. Stark (Reg. No. 30111), Allan A. Fanucci (Reg. No. 30256), Geraldine F. Baldwin (Reg. No. 31232), Victor N. Balancia (Reg. No. 31231), Samuel B. Abrams (Reg. No. 30605), Steven I. Wallach (Reg. No. 35402), Marcia H. Sundeen (Reg. No. 30893), Paul J. Zegger (Reg. No. 33821), Edmond R. Bannon (Reg. No. 32110), Bruce J. Barker (Reg. No. 33291), Adriane M. Antler (Reg. No. 32605), Thomas G. Rowan (Reg. No. 34419), James G. Markey (Reg. No. 31636), Thomas D. Kohler (Reg. No. 32797), Scott D. Stimpson (Reg. No. 33607), Gary S. Williams (Reg. No. 31066), William S. Galliani (Reg. No. 33885), Ann L. Gisolfi (Reg. No. 31956), Todd A. Wagner (Reg. No. 35399), Scott B. Familant (Reg. No. 35504), Warren S. Heit (Reg. No. 36828), Kelly D. Talcott (Reg. No. 39582), and Mark A. Farley (Reg. No. 33170) and, all of Pennie & Edmonds LLP, whose addresses are 1155 Avenue of the Americas, New York, New York 10036, 1667 K Street N.W., Washington, DC 20006 and 3300 Hillview Avenue, Palo Alto, CA 94304, and each of them, my attorneys, to prosecute this application, and to transact all business in the Patent and Trademark Office connected therewith.

I hereby declare that all statements further that these statements were made Section 1001 of Title 18 of the United States Code.

SIGNATURE OF INVENTOR 201

DATE

PENNIE & EDMONDS LLP

COUNSELLORS AT LAW

1155 Avenue of the Americas

New York, N.Y. 10036-2711

(212) 790-9090

ATTORNEY DOCKET NO. 8449-054-999Date: October 4, 1999

Assistant Commissioner for Patents
 Box PATENT APPLICATION
 Washington, D.C. 20231

Sir:

The following utility patent application is enclosed for filing:

Applicant(s): Srivastava, Pramod K.

Executed on:

Title of Invention: PURIFICATION OF HEAT SHOCK/STRESS PROTEIN CELL SURFACE RECEPTORS AND THEIR
 USE AS IMMUNOTHERAPEUTIC AGENTS

PATENT APPLICATION FEE VALUE

| TYPE | NO. FILED | LESS | EXTRA | EXTRA RATE | FEE |
|--|-----------|------|-------|--------------|-------------|
| Total Claims | 75 | -20 | 55 | \$18.00 each | \$ 990.00 |
| Independent | 22 | -3 | 19 | \$78.00 each | \$ 1,482.00 |
| Minimum Fee | | | | | \$ 760.00 |
| Multiple Dependency Fee If Applicable (\$260.00) | | | | | \$ 0.00 |
| Total | | | | | \$ 3,232.00 |
| 50% Reduction for Independent Inventor, Nonprofit Organization or Small Business Concern (a verified statement as to the applicant's status is attached) | | | | | - \$ 0.00 |
| Total Filing Fee | | | | | \$ 3,232.00 |

- ☒ Priority of application no. 60/103,115 filed on October 5, 1998 is claimed under 35 U.S.C. § 119.
☐ The certified copy of the priority application has been filed in application no. filed
☐ Amend the specification by inserting before the first line the following sentence: This is a continuation-in-part of application no. filed.

Please charge the required fee to Pennie & Edmonds LLP Deposit Account No. 16-1150. A copy of this sheet is enclosed.

Respectfully submitted,



Adriane M. Antler
 PENNIE & EDMONDS LLP

32,605
 (Reg. No.)

Enclosure

This form is not for use with continuation, divisional, re-issue, design or plant patent applications.



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Total number of pages: 3

Remarks:

Order of re-scan issued on